

**MARKED UP VERSION OF AMENDED CLAIMS**

- 5 3. (Amended) A process as claimed claim 1 [or 2], wherein the hydroxyl group containing compound is an alkanol with a to 6 carbon atoms per molecule.
4. (Amended) A process as claimed in [any one of claims 1 to 3,] claim 1, wherein component (b) of the catalyst system is a phosphorus-containing ligand of  
10 formula (I), wherein the bivalent organic bridging group R is an ethylene or a propylene group connected via their terminal carbon atoms to the respective phosphorus atoms of X<sup>1</sup> and X<sup>2</sup>.
5. (Amended) A process as claimed in [any one of claims 1 to 4,] claim 1,  
15 wherein X<sup>1</sup> and X<sup>2</sup> represent a substituted or non-substituted bicyclic group with at least 5 ring atoms, of which one is a phosphorus atom.
8. (Amended) A process as claimed in [any one of claims 1 to 7,] claim 1, wherein component (C) of catalyst system contains a protonic acid with a pKa value > 1  
20 in aqueous solution at 25°C or a salt thereof.
9. (Amended) A process as claimed in [any one of claims 1 to 8,] claim 1, where 1,3-butadiene is converted into methyl pentenoate and/or dimethyl adipate.
- 25 10. (Amended) A process to prepare caprolactam, Nylon 6, or Nylon 6,6 wherein a compound as prepared according to the process [according to any of claims 1-9,] of claim 1, is used as an intermediate.
13. (Amended) Use of the catalyst system as claimed in claim 11 [or 12], as a  
30 carbonylation catalyst.